

Claims

1. A filter for liquid filtration, said filter comprises

- 5 ° at least two layers of filtration medium, comprising
 - ° at least one inner layer of filtration medium and
 - ° at least one outer layer of filtration medium,
 - ° wherein each layer has at least one edge and a filtering area, and
- 10 ° wherein a first sealing is positioned outside of said at least one inner layer of filtration medium and inside of said at least one outer layer of filtration medium and said first sealing directs liquid to be filtered through the filtering area of said at least one inner layer of filtration medium, and wherein
- 15 ° the liquid to be filtered enters the layers of filtration material
 - ° through the filtering area of said at least one outer layer of filtration medium and/or
 - ° through said edge of said at least one outer layer of filtration medium and/or
 - ° between two adjacent edges of layers of filtration medium.
- 20 2. The filter according to claim 1, wherein said first sealing comprises a sealing prohibiting liquid to enter said at least one edge of said sealed at least one inner layer of filtration medium.
- 25 3. The filter according to claim 2, wherein said sealing encapsulates said edge of said at least one inner layer of filtration medium.
- 30 4. The filter according to claim 3, wherein said first sealing comprises a glue joint prohibiting liquid to enter said at least one edge of said glued at least one inner layer of filtration medium.
- 35 5. The filter according to any of the preceding claims, wherein said filter further comprising at least one layer of spacer medium, wherein said at least one layer of spacer medium has at least one edge and a spacer area, and wherein said at

least one layer of spacer medium is provided between said at least one inner layer of filtration medium and said at least one outer layer of filtration medium with the spacer area of the spacer medium next to the filtration area of the filtration medium.

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6. The filter according to claim 5, wherein said at least two layers of filtration medium and said at least one layer of spacer medium comprises a plurality of layers of filtration medium and a plurality of layers of spacer medium, and said layers of filtration medium and said layers of spacer medium alternate with at least one layer of filtration medium and at least one layer of spacer medium.

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7. The filter according to claim 6, wherein said at least one layer of filtration medium alternate with said at least one layer of spacer medium with the repeated alternating structure of a filtration medium 1 and a spacer medium 1.

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8. The filter according to claim 6, wherein said at least one layer of filtration medium alternate with said at least one layer of spacer medium with the repeated alternating structure of a filtration medium 1, a spacer medium 1, a filtration medium 2 and a spacer medium 2.

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9. The filter according to claim 6, wherein said at least one layer of filtration medium alternate with said at least one layer of spacer medium with the repeated alternating structure of filtration medium 1, spacer medium 1 and filtration medium 2.

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10. The filter according to claim 5 to 9, wherein the innermost layer of the filter is at least one layer of said at least one inner layer of filtration medium.

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11. The filter according to any of the preceding claims, wherein said first sealing seals the edges of at least 2 layers of said at least one inner layer of filtration medium, such as at least 3 layers, e.g. at least 4 layers, such as at least 5 layers, e.g. at least 6 layers, such as at least 7 layers, e.g. at least 8 layers, such as at least 9 layers, e.g. at least 10 layers.

12. The filter according to claim 5 to 11 wherein said first sealing seals the innermost edges of said at least one inner filtration medium and of said at least one inner spacer medium comprising sealing in total the edges of at least 2 layers of said filtration medium and spacer medium, such as at least 3 layers, 5 e.g. at least 4 layers, such as at least 5 layers, e.g. at least 6 layers, such as at least 7 layers, e.g. at least 8 layers, such as at least 9 layers, e.g. at least 10 layers.
- 10 13. The filter according to any of the preceding claims, further comprising a second sealing, said second sealing comprises sealing one or more of said edges of layers of filtration medium and/or spacer medium, wherein said first sealing and said second sealing have a mutual distance, and where the edges of filtration medium and/or spacer medium between said first sealing and said second sealing are unsealed.
- 15 14. The filter according to claim 13, further comprising a number of additional sealings with distance to said second sealing and each with mutual distance, and wherein said additional sealings each seals one or more of the edges of said layers of filtration medium and/or of the edges of said spacer medium and 20 where the edges of said filtration medium and said spacer medium between each sealing are unsealed.
- 25 15. The filter according to claim 14, wherein said number of additional sealings are at least 1, such as at least 2, for instance at least 3, such as at least 4, for instance at least 5.
- 30 16. The filter according to any of the preceding claims 13 to 15, wherein said second sealing and/or said additional sealings each comprises sealing said edges of filtration medium and/or spacer medium and wherein said sealing comprises encapsulation one or more of said edges of layers of filtration medium and/or spacer medium or gluing one or more of said edges of layers of filtration medium and/or spacer medium.

17. The filter according to any of the preceding claims, wherein said sealing is selected from the group of hydraulic glue, polymer, rubber packing, metallic packing.
- 5 18. The filter according to any of the preceding claims, wherein said sealing is selected from the group of polyethylene, polypropylene, polyolefins, polyamids,
19. The filter according to any of the preceding claims, wherein said sealing is selected from the group of polyethylene, polypropylene.
- 10 20. The filter according to any of the preceding claims, wherein said sealing comprises an end cap and said end cap provide open spaces comprising bypass spaces between said sealings, where contaminated liquid or filtered liquid can enter said bypass spaces and further enter into said filtration medium
- 15 and said spacer medium through said edges of said filtration medium and said spacer medium.
- 20 21. The filter according to claim 20, wherein said end cap further comprises perforations in the end cap itself in the area outside of the first sealing, and contaminated liquid can run through said perforations.
- 25 22. The filter according to any of the preceding claims, wherein said filtration medium and said spacer medium have pores and the pores of the spacer medium are larger than the pores of the filtration medium.
23. The filter according to claim 22, wherein said pores are larger than 0.5 μm .
- 30 24. The filter according to claim 22 to 23, wherein said pores of said filtration medium and of said spacer medium constitute a porosity, and said porosity is substantially uniform throughout the filter.
25. The filter according to claim 22 to 23, wherein said pores of said filtration medium and said spacer medium constitute a porosity, and said porosity varies through the filter.

26. The filter according to claim 25, wherein said porosity varies through the filter due to graded pore structure.
- 5 27. The filter according to claim 25 to 26, wherein said pores are smaller in the inner layers of said filtration medium and/or said spacer medium.
- 10 28. The filter according to any of the preceding claims, wherein said filtration medium is produced by a product selected from the group of polymers, paper, plant fibres, peat, humus, plastics, wool, cotton, rock wool, cellulose, coal fibre and/or glass wool.
- 15 29. The filter according to any of the preceding claims, wherein said filtration medium is produced by a product selected from the group of polymers, plant fibres, wool, cotton, cellulose, activated coal fibre.
- 20 30. The filter according to any of the preceding claims, wherein said filtration medium is produced of polymers selected from the group of polypropylene, polyethylene, polyester, polycarbonat.
- 25 31. The filter according to any of the preceding claims, wherein said filtration medium can be produced by plant fibre selected from plants of the group of flax, elephant grass, hemp, hop, cotton, coconut palm, trees, straw, hay.
- 30 32. The filter according to any of the preceding claims, wherein said filtration medium is produced by sheets of cellulose fibres and/or polymer fibre.
- 35 33. The filter according to claim 32, wherein said filtration medium is produced by non-woven sheets of cellulose fibres and/or non-woven polymer fibre.
- 30 34. The filter according to claim 32, wherein said filtration medium is produced by woven sheets of cellulose fibres and/or polymer fibre.
- 35 35. The filter according to claim 33 to 34, wherein said cellulose fibres are hydrophobic.

36. The filter according to claim 35, wherein said cellulose fibres are made hydrophobic by treatment with compounds selected from the group of wax, starch, natural resins, synthetic resins, water insoluble polyvinyl alcohol, hydroxyethyl cellulose, ethyl cellulose, carboxymethyl cellulose, polyacrylate resin, alkyd resin, polyester resin.
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37. The filter according to claim 35, wherein said cellulose fibres are made hydrophobic by treatment with natural resins.
- 10 38. The filter according to claim 35 to 37, wherein said cellulose fibres are made hydrophobic by a solution of about 1-70% hydrophobic emulsion, such as about 5-50%, e.g. about 10-40 %, such as about 10-30 %, e.g. about 15-25 %, such as about 17-23 %, e.g. about 20%.
- 15 39. The filter according to claim 38, wherein said cellulose fibres are made hydrophobic by contacting with said hydrophobic emulsion for about 0.05-30 minutes, such as for about 0.1-20 minutes, e.g. about 0.2-15 minutes, such as about 0.3-10 minutes, such as about 0.4-7.5 minutes, e.g. about 0.5-5 minutes.
- 20 40. The filter according to claim 38, wherein said cellulose fibres are made hydrophobic by contacting with said hydrophobic emulsion for 0.5-30 minutes
41. The filter according to claim 39 to 40, wherein said hydrophobic cellulose fibres contacted with said hydrophobic emulsion is released for water.
- 25 42. The filter according to claim 41, wherein said hydrophobic cellulose fibres released for water is contacted with a solution of potassium sulphate and sodium sulphate in the concentration of about 0.01-30%, such as about 0.05-20%, e.g. about 0.1-10 %, such as about 0.2-5 %, e.g. about 0.5-4 %, such as about 1-3%,
30 e.g. about 2 %.
43. The filter according to claim 42, wherein said hydrophobic cellulose fibres contacted with potassium sulphate or aluminium sulphate or potassium aluminium sulphate is released for water and dried.

44. The filter according to any of the preceding claims, wherein said spacer medium is produced by a product selected from the group of polymers, paper, plant fibres, plastics, wool, cotton, rock wool, cellulose, coal fibre, metal and/or glass wool.

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45. The filter according to any of the preceding claims, wherein said spacer medium can be produced by polymers selected from the group of polypropylene, polyethylene, polyester, polycarbonat.

10 46. The filter according to any of the preceding claims, wherein the filter comprises at least one perforated core.

47. The filter according to claim 46, wherein the core is produced by polymer or metal.

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48. The filter according to any of the preceding claims 45 to 46, wherein said core comprises apertures.

20 49. The filter according to claim 48, wherein said apertures is substantially round or substantially quadrangular.

25 50. The filter according to claim 48 to 49, wherein said apertures have a dimension of about $0.25 \mu\text{m}^2$, such as about 0.5 mM^2 , e.g. about 1 mM^2 , such as about 2 mM^2 , e.g. about 3 mM^2 , such as about 4 mM^2 , e.g. about 5 mM^2 , such as about 6 mM^2 , e.g. about 7 mM^2 , such as about 8 mM^2 , e.g. about 9 mM^2 , such as about 10 mM^2 , e.g. about 11 mM^2 , such as about 12 mM^2 , e.g. about 13 mM^2 , such as about 14 mM^2 , e.g. about 15 mM^2 , such as about 16 mM^2 , e.g. about 17 mM^2 , such as about 18 mM^2 , e.g. about 19 mM^2 , such as about 20 mM^2 , e.g. about 25 mM^2 , such as about 30 mM^2 , e.g. about 35 mM^2 , such as about 40 mM^2 , such as about 45 mM^2 , e.g. about 50 mM^2 , such as about 55 mM^2 , e.g. about 60 mM^2 , such as about 70 mM^2 , such as about 80 mM^2 , e.g. about 90 mM^2 , such as about 100 mM^2 , e.g. about 120 mM^2 , such as about 140 mM^2 , e.g. about 160 mM^2 , such as about 180 mM^2 , e.g. about 200 mM^2 .

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51. The filter according to claim 48 to 50, wherein said apertures is evenly distributed throughout said core.
52. The filter according to claim 48 to 51, wherein said apertures comprises about 5-95 % of the surface area of said core, such as 5-10%, e.g. 10-15 %, such as 10-20%, e.g. 20-30 %, such as 30-40%, e.g. 40-50 %, such as 50-60%, e.g. 60-70 %, such as 70-80%, e.g. 80-95%.
- 10 53. The filter according to claim 46 to 52, wherein said core is stable to keep shape under function of the filter.
- 15 54. The filter according to any of the preceding claims 46 to 53, wherein said core drains filtered liquid from said filter, and where said contaminated liquid enters the filter from the outside or through perforations of said end cap or into filtration medium or spacer medium from said bypass spaces and eventually enters said core.
- 20 55. The filter according to any of the preceding claims 46 to 54, wherein the at least one filtration medium and the at least one spacer medium are overlying one another and spirally surrounding the central core.
56. The filter according to claim 55, wherein said core comprises one perforated central core.
- 25 57. The filter according to claim 55 to 56, wherein said at least one filtration medium and said at least one spacer medium is one layer of filtration medium and one layer of spacer medium.
- 30 58. The filter according to any of the preceding claims 55 to 57, wherein said at least one filtration medium form an inner zone adjacent to said core, comprising a zone without said spacer medium.
59. The filter according claim 58, wherein said inner zone comprises at least 1 round of said filtration medium.

60. The filter according to any of the preceding claims 58 to 59, wherein said inner zone comprises at least 2 rounds of said filtration medium, such as at least 3 rounds, e.g. at least 4 rounds, such as at least 5 rounds, e.g. at least 6 rounds, such as at least 7 rounds, e.g. at least 8 rounds, such as at least 9 rounds, e.g. at least 10 rounds, such as at least 11 rounds, e.g. at least 12 rounds, such as at least 13 rounds, e.g. at least 14 rounds, such as at least 15 rounds, e.g. at least 16 rounds, such as at least 17 rounds, e.g. at least 18 rounds, such as at least 19 rounds, e.g. at least 20 rounds.
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- 10 61. The filter according to any of the preceding claims 58 to 60, wherein said inner zone comprises about 0.05-15 cm, such as about 0.06-10 cm, e.g. about 0.07-5 cm, such as about 0.08-10 cm, e.g. about 0.09-5 cm, such as about 0.1-4 cm, e.g. about 0.1-3 cm, such as about 1-2 cm, e.g. about 2-3 cm, such as about 3-4 cm, e.g. about 4-5 cm, such as about 5-6 cm, e.g. about 6-8 cm, such as about 8-10 cm, e.g. about 10-12 cm, such as about 12-15 cm.
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- 20 62. The filter according to any of the preceding claims 58 to 61, wherein said end cap is closed in the area of said inner zone, and perforated in the area outside of said inner zone.
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63. The filter according to any of the preceding claims 58 to 62, wherein said end cap is closed in the area of said inner zone and is further closed in part of the area comprising filtration medium and spacer medium, and no bypass spaces is located beneath said areas where the end cap is closed.
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64. The filter according to any of the preceding claims, wherein contaminated liquid is water contaminated with one or more compounds and/or particles.
65. The filter according to claim 64, wherein said one or more compounds and/or particles are selected from the group of oil, sand, soil particles, bacteria, yeast, organic flocculation, dust, plant parts, ochre, humus, plant nutrient.
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66. The filter according to claim 64, wherein said one or more compounds and/or particles are selected from the group of organic liquids such as oil or

hydrocarbons e.g. synthetic oils and fuels, coolants, paints, polymers, alcohols, solvents, aromatics, heavy metals, sewage, insecticides, herbicides.

67. A filter cartridge comprising an exchangeable unit of a filter for liquid filtration,
5 said filter comprises

- ° at least two layers of filtration medium, comprising
 - ° at least one inner layer of filtration medium and
 - ° at least one outer layer of filtration medium,
- 10 ° wherein each layer has at least one edge and a filtering area, and
- ° wherein said at least two layers of filtration medium constitute a separation of a volume for non-filtered liquid and a volume for filtered liquid, and
- 15 ° wherein a first sealing is positioned outside of at least one edge of said at least one inner layer of filtration medium, and said first sealing directs liquid to be filtered through the filtering area of said at least one inner layer of filtration medium having the sealing, and wherein
- 20 ° the liquid to be filtered enters the filtration material
 - ° through the filtering area of said at least one outer layer of filtration medium and/or
 - ° through said edge of said at least one outer layer of filtration medium and/or
- 25 ° between two adjacent edges of layers of filtration medium.

68. The filter cartridge of claim 67 further comprising the features of claim 2-66.

69. A filter house comprising at least one filter cartridge with a filter, said filter
30 comprising

- ° at least two layers of filtration medium, comprising
 - ° at least one inner layer of filtration medium and
 - ° at least one outer layer of filtration medium,
- 35 ° wherein each layer has at least one edge and a filtering area, and

- ° wherein a first sealing is positioned outside of at least one edge of said at least one inner layer of filtration medium, and said first sealing directs liquid to be filtered through the filtering area of said at least one inner layer of filtration medium having the sealing, and wherein
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- ° the liquid to be filtered enters the filtration material
 - ° through the filtering area of said at least one outer layer of filtration medium and/or
 - ° through said edge of said at least one outer layer of filtration medium and/or
 - ° between two adjacent edges of layers of filtration medium.

10 70. The filter house according to claim 69 further including the features of claim 2-
15 66.

20 71. The filter house according to claim 69 or 70, wherein said at least one filter cartridge is at least 2 filter cartridges, such as at least 3 filter cartridges, e.g. at least 4 filter cartridges, such as at least 5 filter cartridges, e.g. at least 6 filter cartridges, such as at least 7 filter cartridges, e.g. at least 8 filter cartridges.

25 72. The filter house according to any of the preceding claims 69 to 71, wherein said at least one filter cartridges are stacked and where said at least one core from each filter cartridges are connected to perform a draining tube to drain off said filtered liquid.

30 73. The filter house according to any of the preceding claims 69 to 72, wherein said filter house comprises a container, which has at least one opening means and through which at least one opening means said filter cartridges can be changed.

74. The filter house according to any of the preceding claims 69 to 73, wherein said filter house comprises at least one entry for contaminated liquid and at least one exit for said draining tube.

75. The filter house according to any of the preceding claims 69 to 74, wherein said filter house with at least one of said filter cartridge mounted, is partly or fully filled with contaminated liquid.
- 5 76. The filter house according to any of the preceding claims 69 to 75, wherein said filter house is exposed to pressure.
- 10 77. The filter house according to claim 76, wherein said pressure is about 0.1-6 Bar, such as about 0.5-5 Bar, e.g. about 1-4 Bar, such as about 2-3.5 Bar, e.g. about 1 Bar, such as about 1.5 Bar, e.g. about 2 Bar, such as about 2.5 Bar, e.g. about 3 Bar, such as about 3.5 Bar, e.g. about 4 Bar, such as about 4.5 Bar, e.g. about 5 Bar, such as about 5.5 Bar, e.g. about 6 Bar.
- 15 78. The filter house according to any of the preceding claims 69 to 77, wherein said filter cartridges are connected by said draining tube and where no contaminated liquid can pass into said draining tube.
- 20 79. The filter house according to any of the preceding claims 69 to 78, wherein said draining tube is said perforated core inside said filter cartridges and said perforated cores are connected by packings, and said filter cartridge or filter cartridges situated at the top of each stack of filter cartridges are closed at the end of the core not connected to another filter cartridge.
- 25 80. The filter house according to any of the preceding claims 68 to 79, wherein said filter house is barrel shaped and has a radius of about 500 mm.
- 30 81. The filter house according to any of the preceding claims 68 to 80, wherein said filter house has a height of at least about 300 mM, such as at least about 400 mM, e.g. at least about 500 mM, such as at least about 600 mM, e.g. at least about 700 mM, such as at least about 800 mM, e.g. at least about 900 mM, such as at least about 1000 mM, e.g. at least about 1200 mM, such as at least about 1300 mM, e.g. at least about 1400 mM, such as at least about 1500 mM, e.g. at least about 1600 mM, such as at least about 1700 mM, e.g. at least about 1800 mM, such as at least about 1900 mM, e.g. at least about 2000 mM, such as at least about 2100 mM, e.g. at least about 2200 mM.

82. The filter house according to any of the preceding claims 68 to 81, wherein the contaminated liquid when entering the container is situated within a sump, and said contaminated liquid when situated in said sump is in motion.

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83. The filter house according to claims 82, wherein said motion of said contaminated liquid is performed by stirring, boiling and/or gas permeation.

84. The filter house according to claims 68 to 83, wherein said filter house
10 comprises pressure regulation means.

85. A filtration system comprising at least two filter houses according to any of the preceding claims 68 to 84, wherein the at least two filter houses are connected in the way that contaminated liquid is filtered successively in the at least two filter houses, and where the contaminated liquid enters in a filter house no. 1
15 and the draining tube of filter house no. 1 is connected to the entry of filter house no. 2 and so forth.

86. A filtration system according to claim 85, wherein said at least two filter houses
20 graduates the filtration due to larger pores of filtration medium and spacer medium within filter house no. 1 than within succeeding filter houses and where the pores of said filtration medium and spacer medium are graded in said succeeding filter houses.

25 87. A filtration system according to claim 85 to 86, wherein contaminated liquid can be conveyed from the outside to any of said filter houses.

88.

A method of producing a filter, , comprising the steps of

30 ° providing at least one layer of filtration medium,

- ° organise said at least one layer of filtration medium to acquire
 - ° at least one inner layer of filtration medium and
 - ° at least one outer layer of filtration medium,

35 ° wherein each layer has at least one edge and a filtering area, and

- sealing at least one of said edges in a manner where a first sealing seals the at least one edge of said at least one inner layer of filtration medium, so that said first sealing directs liquid to be filtered through the filtering area of said at least one inner layer of filtration medium having the sealing, and wherein
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- obtaining a filter where the liquid to be filtered enters the filtration material
 - through the filtering area of said at least one outer layer of filtration medium and/or
 - through said edge of said at least one outer layer of filtration medium and/or
 - between two adjacent edges of layers of filtration medium.
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89. A method of producing a filter cartridge comprising the steps of

- providing at least one layer of filtration medium,
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- organise said at least one layer of filtration medium to acquire
 - at least one inner layer of filtration medium and
 - at least one outer layer of filtration medium,
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- wherein each layer has at least one edge and a filtering area, and wherein said at least two layers of filtration medium constitute a separation of a volume for non-filtered liquid and a volume for filtered liquid, and
- sealing at least one of said edges in a manner where a first sealing seals the at least one edge of said at least one inner layer of filtration medium, so that said first sealing directs liquid to be filtered through the filtering area of said at least one inner layer of filtration medium having the sealing, and wherein
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- obtaining a filter where the liquid to be filtered enters the filtration material
 - through the filtering area of said at least one outer layer of filtration medium and/or
 - through said edge of said at least one outer layer of filtration medium and/or
 - between two adjacent edges of layers of filtration medium.
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90. A method of producing a filtration system comprising the steps of

- providing at least one filter cartridge according to claim 67,
- 5 • providing at least one filter house according to claim 69-84,
- organising said at least one filter cartridge into said at least one filter house ,
- providing an inlet into said at least one filter house for non-filtered liquid, said inlet being in contact with a volume for non-filtered liquid,
- providing an outlet from said at least one filter house for filtered liquid, said outlet being in contact with a volume for filtered liquid, wherein said volume for non-filtered liquid and said volume for filtered liquid is connected by at 10 least two layers of filtration medium, comprising
 - ° at least one inner layer of filtration medium and
 - ° at least one outer layer of filtration medium,
 - 15 ° wherein each layer has at least one edge and a filtering area, and
 - ° wherein a first sealing seals at least one edge of said at least one inner layer of filtration medium, and said first sealing directs liquid to be filtered through the filtering area of said at least one inner layer of filtration medium having the sealing, and wherein
 - 20 ° the liquid to be filtered enters the filtration material
 - ° through the filtering area of said at least one outer layer of filtration medium and/or
 - ° through said edge of said at least one outer layer of filtration medium and/or
 - 25 ° between two adjacent edges of layers of filtration medium.

91. Use of a filter, where said filter comprising at least two layers of filtration 30 medium, comprising

- ° at least one inner layer of filtration medium and
- ° at least one outer layer of filtration medium,
- ° wherein each layer has at least one edge and a filtering area, and

- ° wherein a first sealing seals at least one edge of said at least one inner layer of filtration medium, and said first sealing directs liquid to be filtered through the filtering area of said at least one inner layer of filtration medium having the sealing, and wherein

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- ° the liquid to be filtered enters the filtration material
 - ° through the filtering area of said at least one outer layer of filtration medium and/or
 - ° through said edge of said at least one outer layer of filtration medium and/or
 - ° between two adjacent edges of layers of filtration medium.

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92. The use according to claim 91 further including the features of claim 2-66.

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93. Use of a filter cartridge and/or filtration system where said filter cartridge is described in claim 67-68 and said filtration system is described in claim 85-87.

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94. The use according to claim 991 for filtering contaminated liquid according to claim 64 to 66.

95. The use according to claim 991 to 94 for filtering contaminated liquid within areas selected from the group of factories, sewage works, paint factories, paper factories, ships.

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96. The use according to claim 991 to 94 for filtering water contaminated with oil at ships.

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97. The use according to claim 96, wherein said ship is selected from the group of oil tanker, transport ship, ferry, fishing vessel.

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98. The use according to claim 96 to 97, wherein said ship is registered to above at least 100 register ton, such as at least 150 register ton, e.g. at least 200 register ton, such as at least 250 register ton, e.g. at least 300 register ton, such as at least 350 register ton, e.g. at least 400 register ton, such as at least 450 register

ton, e.g. at least 500 register ton, such as at least 550 register ton, e.g. at least 600 register ton, such as at least 650 register ton, e.g. at least 700 register ton.

99. The use according to claim 991 to 97, wherein the filtered water is discharged to
5 areas selected from the group of: land, river, sea, ocean, harbour.

100. The use according to claim 991 to 97, wherein the filtered water is
discharged to the sea or ocean.

10 101. The use according to claim 991 to 100 wherein the amount of oil is
less than about 25 ppm in the filtered water, such as less than about 20 ppm,
e.g. less than 15 ppm, such as less than about 14 ppm, e.g. less than about 13
ppm, such as less than about 12 ppm, e.g. less than about 11 ppm, such as less
than about 10 ppm, e.g. less than about 9 ppm, such as less than about 8 ppm,
15 e.g. less than about 7 ppm, such as less than about 6 ppm, e.g. less than about
5 ppm, such as less than about 4 ppm, e.g. less than about 3 ppm, such as less
than about 2 ppm, e.g. less than about 1 ppm.